

EXPLORING DIGITAL PROFESSIONAL LEARNING ECOSYSTEMS: TRANSFORMING TEACHER COMPETENCY DEVELOPMENT POLICIES IN PRIVATE MADRASAS

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Abstract : The rapid expansion of digital education requires teacher competency development to move beyond fragmented training toward sustainable professional learning ecosystems. However, private madrasas continue to exhibit substantial disparities in teachers' digital competency outcomes. This study employed a qualitative multiple-case study design. Data were collected through in-depth interviews, observations, and document analysis and were analyzed using the interactive model of Miles, Huberman, and Saldaña. The findings reveal three major transformations. First, teacher competency development policies have shifted from fragmented training initiatives toward digital professional learning ecosystems that promote continuous learning and collaborative knowledge sharing. Second, adaptive leadership emerged as the primary driver of policy transformation through strategic supervision, institutional resource allocation, and collaborative professional learning. Third, policy implementation remains constrained by limited institutional readiness, disparities in teachers' digital competencies, dependence on externally driven professional development, and weak professional learning cultures, resulting in uneven policy transformation across private madrasas.

Keywords : Professional Learning Ecosystem; Teacher Competency; Policy.

Abstrak : Pesatnya perkembangan pendidikan digital menuntut pengembangan kompetensi guru untuk beralih dari pelatihan yang bersifat terfragmentasi menuju ekosistem pembelajaran profesional yang berkelanjutan. Namun, madrasah swasta masih menunjukkan kesenjangan yang cukup besar dalam capaian kompetensi digital guru. Penelitian ini menggunakan desain studi kasus multipel dengan pendekatan kualitatif. Data dikumpulkan melalui wawancara mendalam, observasi, dan analisis dokumen, kemudian dianalisis menggunakan model analisis interaktif Miles, Huberman, dan Saldaña. Hasil penelitian mengungkapkan tiga transformasi utama. Pertama, kebijakan pengembangan kompetensi guru telah bergeser dari inisiatif pelatihan yang terfragmentasi menuju ekosistem pembelajaran profesional digital yang mendorong pembelajaran berkelanjutan dan berbagi pengetahuan secara kolaboratif. Kedua, kepemimpinan adaptif muncul sebagai pendorong utama transformasi kebijakan melalui supervisi strategis, alokasi sumber daya kelembagaan, dan pembelajaran profesional kolaboratif. Ketiga, implementasi kebijakan masih dibatasi oleh rendahnya kesiapan kelembagaan, kesenjangan kompetensi digital guru, ketergantungan pada pengembangan profesional yang didorong oleh pihak eksternal, serta lemahnya budaya pembelajaran profesional, sehingga mengakibatkan transformasi kebijakan berlangsung secara tidak merata di berbagai madrasah swasta.

Kata Kunci : Ekosistem Pembelajaran Profesional; Kompetensi Guru; Kebijakan.

INTRODUCTION

Digital transformation has fundamentally changed the educational landscape, pushing educational institutions to adapt to technological developments, changing student characteristics, and the demands of 21st-century competencies (Uzorka & Kalabuki, 2024). The digitalization of learning no longer focuses solely on the use of technological devices but also demands a paradigm shift in the learning process, educational leadership, and human resource development, particularly teachers (Julhadi & Ritonga, 2023; Liu et al., 2024). In this context, teacher competency is a strategic factor determining the success of digital education implementation (Huttayavilaiphan, 2021; Vieira & Joia, 2024). Teachers are not only required to possess pedagogical, professional, social, and personality competencies as mandated by national regulations, but also digital competencies that encompass the ability to utilize technology, integrate artificial intelligence (AI), manage data-driven learning, and develop adaptive learning innovations. Therefore, teacher competency development policies are a crucial element in ensuring educational institutions' readiness to face rapid change.

On the other hand, private madrasahs face more complex challenges than public schools in developing teacher competencies. Limited resources, access to quality training, funding support, digital infrastructure, and managerial capacity often hinder the implementation of sustainable teacher professional development policies (Alvarado-Bravo et al., 2024; Molefi et al., 2024). Although various competency improvement programs have been implemented by the government and educational institutions, their implementation in private madrasahs still shows considerable variation (Muamalah, 2022). Some madrasahs have successfully developed digital learning ecosystems through technology-based training, professional learning communities, and collaboration with various stakeholders (Shah, 2023). However, others still focus on conventional, administrative training that has not fully addressed the needs of digital transformation (Foncubierto-Rodríguez et al., 2020; Mahsusi et al., 2024). This situation indicates that policy effectiveness is determined not only by the existence of regulations, but also by the organization's ability to translate these policies into contextual, innovative, and sustainable competency development practices.

Various previous studies have examined teacher competency development from the perspectives of professional training, continuous professional development, digital transformation, and technology integration in learning. However, these studies generally focus on improving individual teacher competencies or evaluating the effectiveness of specific training programs (Özeke-Kocabaş & Koyuncu, 2023; Seo et al., 2024). Therefore, they have not adequately addressed how teacher competency development policies are

transformed into strategic instruments in facing the digital education era, particularly in the context of private madrasas (Amelya et al., 2024; Qushwa & Baharun, 2024). Furthermore, most research still views policies as normative administrative products, rather than as transformational processes involving strategic leadership, institutional governance, multi-stakeholder collaboration, the use of digital technology, and data-driven evaluation mechanisms (Tessema et al., 2024). The novelty of this research lies in the development of a policy transformation perspective, which positions teacher competency development not merely as a training activity but as part of an institutional strategy that integrates adaptive governance, evidence-based policy, a professional learning ecosystem, and the overall digital readiness of madrasas. Thus, this research offers a more comprehensive conceptual framework to explain how teacher competency development policies can be a key driver of madrasah transformation into educational institutions that are responsive to the challenges of the digital era.

Based on these gaps, this study aims to analyze how teacher competency development policies in private madrasas have been transformed to align with the demands of the digital education era. This study not only identifies the forms of policies implemented but also reveals implementation strategies, supporting and inhibiting factors, and innovations developed in building teacher competencies relevant to developments in educational technology. The results of this study are expected to provide theoretical contributions to the development of Islamic education management studies, particularly regarding the transformation of human resource development policies in madrasas, while also providing practical contributions as a reference for policymakers, madrasah principals, and stakeholders in designing teacher competency development policy models that are more adaptive, sustainable, and responsive to the dynamics of digital education.

METHOD

This research employed a qualitative approach with a multiple case study design to gain an in-depth understanding of the transformation of teacher competency development policies in private Islamic schools (madrasahs) in the digital education era. This approach was chosen because it comprehensively uncovered the phenomenon based on the experiences, perceptions, and practices of stakeholders in formulating and implementing teacher competency development policies. The research was conducted in November 2025 at seven private Islamic Junior High Schools (MTs) in South Tangerang City: MTs Baitis Salmah, MTs Sa'adatul Mahabbah, MTs Miftahul Huda, MTs Sunnanul Husna, MTs Unwanunnajah, MTs Nurul Hikmah, and MTs Al Ihsan. The locations were selected

purposively, taking into account the diverse characteristics of the madrasahs and the implementation of existing teacher competency development programs.

Research informants were selected using a purposive sampling technique, based on their direct involvement in the formulation and implementation of teacher competency development policies. Key informants consisted of the madrasah principal, the vice principal for curriculum, and teachers who actively participated in various competency development programs. The madrasah principal was selected because he or she plays a key role in policymaking at the educational unit level. The vice principal for curriculum is responsible for implementing academic programs and improving the quality of learning. Teachers were selected as the primary policy implementers and those who directly experience the impact of the competency development program implementation. Data collection was conducted until data saturation was reached, when the information obtained showed recurring patterns and no longer yielded significant new findings.

Data collection techniques included in-depth interviews, observation, and documentation. In-depth interviews were used to gather information on the policy formulation process, teacher competency development strategies, institutional support, the implementation of digital technology in learning, and the challenges faced in policy transformation. Direct observations were made of the implementation of teacher professional development activities, digital-based training, teacher learning communities, and learning practices utilizing technology. Documentation was used to supplement and verify the data through analysis of madrasah policy documents, work programs, training reports, evaluation documents, meeting minutes, as well as various scientific articles, books, and other documents relevant to the research focus. To ensure data validity, the study employed source triangulation, technical triangulation, and member checking to ensure high levels of credibility and consistency.

Data analysis was conducted using the interactive model of Miles et al., (2014), which encompasses three stages: data condensation, data display, and conclusion drawing and verification. During the data reduction stage, all interview, observation, and documentation findings were transcribed, coded, and then grouped based on themes related to the transformation of teacher competency development policies. The next stage was data presentation in the form of matrices, narratives, and mapping of relationships between themes to facilitate interpretation. Conclusions were drawn continuously throughout the research process by comparing findings across sites to identify general patterns and unique characteristics of each madrasah. This cross-site analysis yielded a comprehensive understanding of the strategies for transforming teacher competency development policies in private madrasahs to meet the demands of the digital education era.

RESULT AND DISCUSSION

1. Results

a) Policy Transformation from Incidental Training to Digital Ecosystem-Based Teacher Competency Development

The first finding indicates that teacher competency development policies at seven private madrasas (Islamic schools) have shifted their orientation from incidental training to continuous professional development based on a digital ecosystem, although this transformation has not been uniform. Prior to the demands of digitalization in education, most teacher competency improvement programs were implemented only upon instruction from the Ministry of Religious Affairs or when teachers had the opportunity to participate in government-organized training. Competency development programs were not yet structured as institutional policies with target outcomes, success indicators, or a teacher development roadmap. This situation resulted in teacher competency development being more reactive than strategic, making the program's sustainability highly dependent on external agendas.

Interviews revealed that all madrasah principals acknowledged the lack of a specific document outlining the medium- or long-term direction of teacher competency development. Training programs are generally included in annual work plans and implemented when training information is available from the ministry's office or madrasah supervisors. The principal of MTs Sunnanul Husna explained:

"Internal training does exist, but it's not routine. We usually hold it when there's a new policy from the ministry or when teachers complete a technical guidance program and are asked to share it with other teachers."

This statement is supported by an analysis of madrasah work program documents, which show that the teacher competency improvement agenda is still dominated by curriculum socialization, academic supervision, and evaluation meetings. Training specifically developing teachers' digital competencies has not yet become an annual priority program. This finding indicates that competency development policies are still oriented toward meeting administrative needs rather than systematically building professional capacity.

Nevertheless, the research found indications of policy transformation toward a digital learning ecosystem in several madrasahs. MTs Sa'adatul Mahabbah, for example, has begun integrating digitalization into academic policies through the provision of internet access, computer labs, the use of YouTube as a learning resource, PowerPoint-based presentations, and the use of various digital learning platforms for specific subjects. Based on observations in grade VIII, the science teacher presented

experimental simulations through learning videos before students engaged in group discussions, while the English teacher used interactive quizzes based on online applications as formative assessments. These practices demonstrate that the use of technology is no longer positioned as a supplement to learning but is beginning to become part of the madrasah's learning strategy.

This change in policy orientation is also evident in the development of knowledge-sharing mechanisms following teacher training. In some Islamic schools, teachers who have participated in technical guidance are required to re-present training materials through internal teacher forums or monthly meetings so that new knowledge is not limited to specific individuals. The principal of MTs Sa'adatul Mahabbah explained that each teacher participating in the training is asked to demonstrate new learning methods or media to other teachers so that they can adapt them to the characteristics of their respective subjects. This policy is gradually building a culture of collective professional learning, which is one of the characteristics of continuous teacher professional development. This approach also aligns with various studies that emphasize that teacher professional development is more effective when it occurs collaboratively, contextually, and integrated with daily teaching practices.

However, the implementation of this policy transformation still faces several limitations. Observations indicate that the use of technology in learning is not consistently implemented by all teachers. Younger teachers tend to be more adaptive in utilizing digital media, while some senior teachers still rely on lectures and print media. At MTs Al Ihsan, limited LCD projectors, information technology personnel, and minimal internal training have resulted in the use of digital media being limited to certain subjects. Thus, the policy transformation that has occurred has not completely changed the organizational culture, but is still in the transition stage from a project-based training system to teacher competency development based on a digital ecosystem and continuous learning.

b) Adaptive Leadership as a Driver for the Implementation of Teacher Competency Development Policies

The second result is the transformation of the establishment of teacher competence policies in private madrasahs is strongly influenced by the leadership skills of the madrasah principals in initiating organizational change. Competency development policies are no longer considered as administrative operations to be carried out only when government programs are in place, but are increasingly oriented as institutional methods to build teacher capacity in digital education. Madrasah principals are involved in policy design, resource allocation, developing a

culture of professional learning and promoting the use of digital technologies in the learning process.

The results of the study indicate that principals of madrasas implement several adaptive policies, including the flexibility of teachers in participating in Teacher Professional Education (PPG), the establishment of forums for sharing best practices after training, strengthening academic supervision, and developing digital learning facilities. Such regulations encourage instructors to improve their professional competence and foster collaboration among teachers. In some madrasas, trained instructors are required to disseminate new knowledge to other teachers through internal forums, so that the competency development process does not stop at the individual level but develops into organizational learning.

But the policies have not been uniformly implemented. Madrasas that have progressive leadership have managed to set up digital learning environments by providing internet connections, computer laboratories, and technology-based instructional resources. On the other hand, some madrasas still lack finance, infrastructure and human resource competence to implement reform strategies optimally. The circumstance suggests that the effectiveness of policy reform is affected not just by leadership commitment but also by the organization's preparedness to give continuous institutional support.

Tabel 1: Adaptive Leadership in Transforming Teacher Competency Development Policies

Interview / Field Data	Description
<i>"We provide adjustments to teaching schedules for teachers participating in the PPG. After completing the program, they share their materials with other teachers through the teacher forum."</i>	Leadership supports professional learning through institutional policy and internal knowledge sharing.
<i>"Supervision now not only examines administration, but also looks at the use of digital media in learning."</i>	Academic supervision has shifted toward improving digital teaching competence.
<i>"Madrasas have begun allocating funds for internet networks, LCD projectors, and internal training, although this is being done in stages."</i>	Institutional resources are gradually redirected to support digital competency development.
<i>"Teachers' ability to use technology is not yet evenly distributed, so mentoring is carried out in stages according to need."</i>	Teacher competency development is differentiated according to teachers' digital readiness.

Teachers who have participated in the training disseminate digital learning practices through the madrasah's internal forum.	Collaborative professional learning becomes part of the institutional development strategy.
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Table 2 demonstrates that adaptive leadership has become the central mechanism driving the transformation of teacher competency development policies within private madrasas. Rather than merely implementing externally mandated training programs, school leaders have begun repositioning teacher professional development as an institutional strategy that supports continuous learning, digital innovation, and organizational capacity building. The evidence reveals several important dimensions that characterize this policy transformation.

First, institutional support for continuous professional development. The findings indicate that school leaders have introduced policies that provide teachers with opportunities to participate in professional development activities without disrupting instructional responsibilities. Flexibility in teaching schedules for teachers enrolled in the Teacher Professional Education (PPG) program reflects a shift from administrative management toward strategic human resource development. Furthermore, the requirement for teachers to disseminate newly acquired knowledge through internal forums demonstrates that professional learning is no longer viewed as an individual responsibility but as an institutional asset shared across the organization.

Second, the transformation of academic supervision. The findings show that academic supervision has evolved beyond evaluating administrative completeness toward strengthening instructional quality in the digital era. School leaders increasingly assess teachers' ability to integrate digital media, interactive learning platforms, and technology-enhanced instructional strategies into classroom practice. This transformation positions supervision as a developmental mechanism that facilitates pedagogical improvement rather than merely ensuring regulatory compliance.

Third, strategic allocation of institutional resources. The evidence suggests that several private madrasas have begun redirecting institutional resources to strengthen digital learning ecosystems. Investments in internet connectivity, multimedia equipment, and internally organized professional development programs illustrate the emergence of policy decisions that prioritize teacher competency development despite financial limitations. These initiatives indicate that policy transformation is reflected not only in written regulations but also in resource allocation that directly supports instructional innovation.

Fourth, differentiated professional development based on teachers' readiness. The findings further reveal that school leaders recognize variations in teachers' digital competencies and therefore implement gradual mentoring approaches. Rather than applying uniform training programs, competency development is adjusted according to teachers' technological readiness and professional needs. Simultaneously, collaborative knowledge-sharing activities encourage teachers who have mastered digital pedagogy to support colleagues through peer learning, creating a sustainable professional learning culture within the madrasah.

These findings demonstrate that leadership transformation in private madrasas extends beyond administrative decision-making toward the creation of an adaptive policy environment that supports sustainable teacher competency development. The policy transformation is characterized by institutional commitment to continuous professional learning, developmental supervision, strategic resource management, and collaborative capacity building, all of which strengthen madrasas' readiness to respond to the demands of digital education.

c) Structural Barriers to Policy Transformation

The transformation of policy on developing the competence of teachers in private madrasas has not run optimally since there are still several structural barriers at the institutional level. These hindrances are not only caused by the limited competence of the digital teachers but are also influenced by the organization's capacity to manage self-development professionally. The research results show that the implementation of the transformation policy is influenced by low readiness of digital infrastructure, the gap in the competence of the teachers between generations, limited funding, and high dependence on competency development programs organized by the government. The condition caused partial policy transformation and has not yet been able to create a sustainable professional development ecosystem in all madrasah.

Besides internal factors of the teachers, the study also found that most of the madrasah did not have an institutional system that specifically managed the needs-based professional development of teachers. Training is still reactive to external policies and there has been no systematic evaluation of teachers' competency needs. Thus, the development of digital competence is more based on individual initiatives rather than planned institutional policies. Findings this show that the main challenge of policy transformation is not only on the change of teacher's behavior but also the organizational readiness in building an adaptive competency development system against the dynamics of digital education.

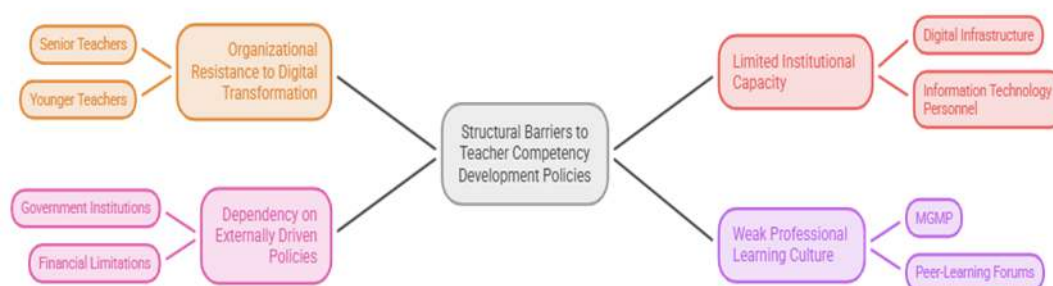


Figure 1: Structural Barriers to Teacher Competency Development Policies

The picture illustrates that the challenges in the transformation of policy on teacher competence development in private madrasas are diverse and interrelated. It highlights not only the individual aspect of teachers but also institutional capacity, organizational leadership, and available resource support. These four groups of obstacles demonstrate that the successful implementation of teacher competence development policies in the digital education era requires a comprehensive approach, as each dimension contributes to the effectiveness of the policy's implementation.

The first dimension shows resistance to change in digital transformation of organizations, which is resistance to change still found in certain teachers, especially senior teachers who have long been using conventional learning approaches. The uneven implementation of policies is due to different levels of digital literacy among teachers. Teachers who have higher digital competence are quicker to adopt technology-based learning media, teachers who are less prepared require gradual assistance. This shows that the transformation of policies is not only supported by regulations, but also an organizational culture that can mobilize all teachers' readiness in welcoming innovations in education.

The second dimension is restricted institutional capacity, i.e. the limited capacity of institutions in supporting policy implementation. These obstacles are the uneven provision of digital infrastructure, limited information technology support staff and minimal resource allocation for developing teacher competency. This restriction results in not yet the optimal implementation of the policy of digitalizing learning to all classes. Thus, institutional preparedness is an important predictor of policy transformation success, as learning innovation cannot be developed without support from adequate facilities and organizational systems.

The third dimension is the dependency on the externally driven professional development, which is the high dependency of madrasah on the competency development programmes organized by the government. Most training activities are still conducted through invitations or programs organized by external agencies, while

training programs developed independently by madrasahs are still relatively few. This condition indicates that the institutional autonomy in designing policies for the development of teacher competence is not ideal. Therefore, the direction of competency development is more often in accordance with the external agenda, not the actual needs of each madrasah.

The fourth dimension is a poor professional learning culture, meaning the lack of a strong professional learning culture within the madrasah environment. Teachers remain relatively low in their participation in learning communities, collaborative forums, or sharing of best practices, thus stalling the process of knowledge transfer and learning innovation. Meanwhile, a culture of collaborative learning is one of the characteristics of a learning organization that greatly supports the continuous development of teacher competence.

Thus, the picture shows that the obstacles to the transformation of teacher competence development policy are not separate but create a system that influences each other. In combination, resistance to change, limited institutional capacity, dependence on external programs, and a weak culture of professional learning hinder the emergence of sustainable policies for teacher competence development. Therefore, the policy transformation on private madrasahs needs to strengthen adaptive leadership, institutional capacity building, foster independence in implementing professional development programs, and build a collaborative culture so that the policy designs can be implemented in facing the demands of the digital education era.

2. Discussion

The first finding reveals that teacher competency development policies in private madrasahs have shifted from an incidental approach to more continuous professional development oriented toward the digital ecosystem. This change indicates that policy transformation is now viewed as an institutional process to integrate teacher competency development with the madrasah's digital transformation strategy, rather than simply providing occasional training. Competency development begins with creating a culture of knowledge sharing, utilizing digital learning resources, and strengthening collaborative learning among teachers. Thus, this policy transformation represents a paradigm shift from a training-oriented policy to a continuous professional learning policy. In this policy, teacher learning processes are ongoing and part of organizational development.

This finding confirms numerous studies showing that teacher professional development is more effective when it is conducted sustainably, contextually, and integrated with daily learning practices, rather than through episodic training (Copur-Gencturk et al., 2024). A continuous professional development approach helps teachers

apply pedagogical and digital competencies adaptively in line with the evolution of educational technology (Dias et al., 2024). Furthermore, the establishment of a forum for sharing good practices after training indicates that teacher learning processes are beginning to move toward the concept of a professional learning community, a learning community that encourages collective collaboration, reflection, and innovation (Yusuf et al., 2024). These findings are also consistent with organizational learning theory, which emphasizes that individual learning will have a greater impact if institutionalized into organizational knowledge.

However, this study offers a different perspective from most previous research, which generally considers training as the primary indicator of teacher competency development. This research demonstrates that policy transformation cannot be measured solely by the number of training sessions teachers attend, but must be understood as a system-wide change process through internal policy development, the development of a professional learning culture, the integration of digital technology, and mechanisms for knowledge dissemination within the organization. Thus, the theoretical contribution of this study is to expand the concept of teacher competency development from an individual approach to an institutional approach based on a digital learning ecosystem.

The second finding indicates that adaptive leadership is a key determinant of the success of teacher competency development policy transformation in private madrasahs. Madrasah principals are no longer merely implementers of government policy but have evolved into agents of change, initiating institutional innovation through strengthening academic supervision, providing digital facilities, supporting teacher professional development, and building a collaborative learning culture (Schmitz et al., 2023; Teslo et al., 2023). This role suggests that the success of policy transformation depends heavily on the leadership's capacity to integrate institutional vision, organizational resources, and teacher development needs into policies that adapt to the changing educational environment.

These findings support transformational leadership theory, which explains the role of educational leaders in creating a vision for change, motivating organizational members, and fostering an environment that fosters continuous innovation. Adaptive leadership in the madrasah context is manifested not only in strategic decision-making but also in the ability to build organizational learning mechanisms such as knowledge sharing, professional mentoring, and competency-based supervision (Bin Hasan et al., 2024; Santa Soriano & Torres Valdés, 2021). Several previous studies have also shown that the quality of school leadership is positively correlated with increased teacher competency, learning effectiveness, and the successful implementation of digital educational innovations.

Furthermore, this study extends the study of educational leadership by demonstrating that adaptive leadership influences not only the direction of teacher behavioral change but also the direction of institutional policy transformation. Madrasahs whose principals are able to strategically allocate resources, build a collaborative culture, and integrate competency development into organizational planning are more effective in implementing policies than those still oriented towards routine administration (Stoneham et al., 2021). Adaptive leadership can be seen as a bridging mechanism (policy support) that connects national policies with teacher professional development practices at the educational unit level.

These findings suggest that the primary challenge to transforming teacher competency development policies is not solely due to low individual teacher competency, but rather to the institution's readiness to manage change. Barriers such as resistance to digital transformation, limited infrastructure, reliance on government training programs, and a weak culture of professional learning indicate that interrelated structural issues continue to hamper policy implementation (Lee et al., 2023; Wang et al., 2024). These findings confirm that the success of policy transformation depends heavily on the organization's capacity to build an independent, adaptive, and sustainable professional development system.

The results of this study support several studies that suggest that the success of educational digitalization is determined by organizational readiness in addition to individual teacher readiness. Without the support of infrastructure, human resources, and an organizational culture that supports innovation, educational institutions will not be able to optimally implement digital transformation (Hafferty et al., 2024; Vieira & Joia, 2024). From the perspective of organizational change theory, resistance to change is a natural phenomenon at the beginning of a transformation. However, resistance can be minimized through effective leadership, open communication, continuous training, and the involvement of all organizational members in the change process.

The main contribution of this research is the development of the concept of institutional readiness as a prerequisite for successful transformation of teacher competency development policies. Previous studies have largely focused on the need to improve teachers' digital literacy. This study shows that improving individual competencies will not produce sustainable change if not accompanied by adequate institutional capacity. Therefore, policy transformation in private madrasahs must be directed at strengthening four key aspects: adaptive leadership, institutional independence in teacher professional development, strengthening digital infrastructure, and building a collaborative learning culture. These four aspects form the institutional

foundation that enables teacher competency development policies to be implemented appropriately to meet the demands of the digital education era.

CONCLUSION

This research shows that the transformation of teacher competency development policy in private madrasas in the digital education era has undergone a paradigm shift from the incidental training-oriented approach to continuous professional development which is more integrated with organizational needs. The transition is achieved by improving the digital learning ecosystem, applying adaptive leadership, and building a collaborative learning culture inside the madrasah setting. The principals of madrasahs are strategic actors in driving change by providing institutional support, enhancing academic supervision, building knowledge-sharing systems, and leveraging digital technologies to enhance the quality of learning. The findings expand the perspective that the policy of the development of teacher competency is no longer considered a collection of training programs but as a strategy of institutional reform that develops organizational capacity in a sustainable way.

Moreover, this study also reveals that the successful policy transformation is still facing some structural barriers, such as the gap of digital competency among teachers, the limited infrastructure and resources, the reliance on government professional development programmes, and the suboptimal culture of professional learning at the madrasah level. Therefore, enhancing institutional readiness is a critical precondition for the effective and sustainable implementation of teacher competency development policies. Theoretically, the research contributes to a lens on policy transformation of teacher competency development integrating the digital learning ecosystem, adaptive leadership, and institutional preparation for teacher professional development. However, the study was limited to seven private Islamic Junior High Schools (madrasah tsanawiyah) in South Tangerang City, therefore the generalization of the findings is limited. It is recommended for the next researcher to take a wider area, compare public and private madrasah and test this policy transformation model using a mixed method or longitudinal study to get a more comprehensive understanding of the effectiveness of policy implementation in the long term.

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